

REMARKS

In the Office Action mailed September 14, 2007, the Office took the following action: (1) objected to claims 3 and 6 as being of improper dependent form; (2) rejected claim 6 under 35 U.S.C. §112, second paragraph, as being indefinite; and (3) rejected claims 1-11 under 35 U.S.C. §102(b) as being anticipated by Yokel, U.S. Patent No. 3,803,934 (hereinafter "Yokel"). Applicant respectfully traverses and further requests reconsideration and withdrawal of the rejections in view of the following remarks.

Objection to claims 3 and 6

The Office objected to claims 3 and 6 as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant has corrected claims 3 and 6 by amending claims 2 (the base claim of claim 3) and claim 6. Claim 2 was amended to include "power generation system," which is further defined in claim 3 as "the power generation system includes an engine." Claim 6 was amended to depend from claim 2, which includes "the low angle face gear." Therefore, Applicant respectfully requests reconsideration and withdrawal of the objection to claims 3 and 6.

Rejection under §112, second paragraph

The Office rejected claim 6 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In particular, the Office identifies "the low angle face gear" in line 1 as not having sufficient antecedent basis in claim 1. Claim 6 was amended to depend from claim 2, which includes "the low angle face gear." Therefore, Applicant respectfully requests reconsideration and withdrawal of the rejection to claim 6.

Rejection under §102(b)

The Office rejected claims 1-11 under 35 U.S.C. §102(b) as being anticipated by Yokel. Yokel generally pertains to “a power transmission for transmitting power from an input shaft and to an output shaft.” (Abstract). Claims 1, 2, and 7 are independent base claims and will each be discussed in turn.

Claim 1

Applicant respectfully submits that Yokel fails to disclose each element of claim 1 as required under 35 U.S.C. §102(b).

Claim 1, as amended, is provided below for convenience:

A gear assembly adapted to be mounted on a shaft, comprising:
a drum having an inner cylindrical wall adapted to be mounted on the shaft, an outer cylindrical wall, and a drum face connected to said inner cylindrical wall, the drum face including a plurality of cavities;
a gear ring mounted on and fixed to an outer circumference of the drum face; and
gear teeth formed on an outer circumference of the gear ring,
wherein a vector normal to the gear teeth at a radial and a vector perpendicular to the inner cylindrical wall at the radial have an angular difference that is less than 30°.

Yokel fails to disclose “the drum face including a plurality of cavities,” as recited in claim 1. The Office relies on element 44 of Figure 1 as teaching a drum. More specifically, the Office states that Yokel discloses a drum face as “see face of drum facing in axial directions.” (Office Action page 3, lines 4-5). However, Yokel does not include “the drum face including a plurality of cavities.” Element 44 is a cross sectional view through the power transmission, and does not disclose “a plurality of cavities.” In addition, the description of element 44 states, “The output shaft also has a relatively large, tapered helical gear 44 fixed thereto for rotation therewith and this tapered gear is in constant mesh with both gears 18 and 34. (Yokel, col. 3, lines 26-29). Yokel does not include any further description of element 44.

The amendments to claim 1 are supported in the specification by at least page 3, lines 17-19. No new matter has been added. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection to claim 1.

Claim 2

Applicant respectfully submits that Yokel fails to disclose each element of claim 2 as required under 35 U.S.C. §102(b).

Claim 2, as amended, is provided below for convenience:

A system comprising:

a power generation system including:

an power generation system;

a shaft coupled to the power generation system; and

a spur gear mounted to the shaft; and

a receiving system including:

a shaft; and

a low angle face gear mounted to the shaft of the receiving system, wherein the low angle face gear includes a drum having an inner cylindrical wall adapted to be mounted on the receiving system shaft, and a drum face connected to said inner cylindrical wall, the drum face having at least two cavities to reduce the weight of the low angle face gear,

wherein the power generation system shaft and the receiving system shaft are positioned such that the spur gear drives the low angle face gear, and the shafts have an angular difference that is less than 30°.

Yokel fails to disclose “the low angle face gear includes a drum having an inner cylindrical wall adapted to be mounted on the receiving system shaft, and a drum face connected to said inner cylindrical wall, the drum face having at least two cavities to reduce the weight of the low angle face gear,” as recited in claim 2.

The Office relies on element 44 of Figure 1 as teaching a drum. However, element 44 as shown in Figure 1 of Yokel does not include “the drum face having at least two cavities to reduce the weight of the low angle face gear.” In addition, the description of element 44 in

Yokel fails to provide further details of the gear 44. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection to claim 2.

Claims 3-6 depend from claim 2, and thus are believed allowable at least for their dependency on the allowable base claim 2. Further, the additional limitations in these dependant claims provide limitations which are not taught by the cited reference. Although all dependant claims may recite limitations not disclosed by Yokel, only claim 5 is discussed below for sake of brevity.

Claim 5 recites, "the transmission includes a rotary aircraft engine transmission." The Office states, "internal combustion engine is a rotary engine." (Office Action, page 4, lines 1-2). However, Yokel does not disclose an *aircraft* engine. Applicant respectfully submits that Yokel fails to disclose a rotary aircraft engine transmission. The amendments to claim 5 are supported in the specification by at least page 4, lines 12-14. No new matter has been added.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections to claims 2-6.

Claim 7

Applicant respectfully submits that Yokel fails to disclose each element of claim 7 as required under 35 U.S.C. §102(b).

Claim 7, as amended, is provided below for convenience:

A system comprising:
 a first system including:
 a shaft; and
 a spur gear mounted to the shaft; and
 a second system including:
 a shaft; and
 a low angle face gear mounted to the shaft of the receiving system, wherein the low angle face gear includes a shaft aperture at least partially encircled by a plurality of apertures, the shaft aperture to receive

the second system shaft and the plurality of apertures to reduce the weight of the low angle face gear,
wherein the first system shaft and the second system shaft are positioned such that the spur gear drives the low angle face gear, and the shafts have an angular difference that is less than 30°.

Yokel fails to disclose “the low angle face gear includes a shaft aperture at least partially encircled by a plurality of apertures, the shaft aperture to receive the second system shaft and the plurality of apertures to reduce the weight of the low angle face gear,” as recited in claim 7.

The Office relies on element 44 of Figure 1 as teaching a drum. However, element 44 as shown in Figure 1 of Yokel does not include “a shaft aperture at least partially encircled by a plurality of apertures.” In addition, the description of element 44 in Yokel fails to provide further details of the gear 44. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection to claim 7.

Claims 8-11 depend from claim 7, and thus are believed allowable at least for their dependency on the allowable base claim 7. Further, the additional limitations in these dependant claims provide limitations which are not taught by the cited reference. Although all dependant claims may recite limitations not disclosed by Yokel, only claim 10 is discussed below for sake of brevity. Claim 10 recites, “the transmission includes a rotary aircraft engine transmission.” Applicant respectfully submits that Yokel fails to disclose a rotary aircraft engine transmission for at least the reasons submitted above with respect to claim 5.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections to claims 7-11.

New Claims

Claims 12-13 depend from claim 1, and thus are believed allowable at least for their dependency on the allowable base claim 1. Further, the additional limitations in these dependant claims provide limitations which are not taught by the cited reference. Claim 12 recites, “The

gear assembly of claim 1, wherein the plurality of cavities are generally circular cavities.” As discussed above, Yokel fails to disclose “the plurality of cavities.” Claim 13 recites, “The gear assembly of claim 1, wherein the plurality of substantially cavities are symmetrically arranged between the inner cylindrical wall and the outer cylindrical wall.” Accordingly, Applicant respectfully submits that claims 12-13 are allowable.


CONCLUSION

For the foregoing reasons, Applicants respectfully submit that pending claims 1-13 are now in condition for allowance. If there are any remaining matters that may be handled by telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

Respectfully Submitted,

Dated: Jan. 14, 2008

By: _____


Damon J. Kruger
Lee & Hayes, PLLC
Reg. No. 60,400
(206) 315-7918

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CUSTOMER NUMBER